nursing. But what can changing a nurse constantly mean, after she has been well taught, but that she is more under the power of the superior, and ready to act in combination? There may be seasons and places where the nurse may be required to stand up against ignorance; but the nurse should be attached in feeling to patients and wards by continuity of work.

3. *The Nursing Institute.*—This is a simple form or plan for teaching nurses; but it is frequently confused with the central nursing system. No doubt they can be and often are, worked together, and the one may be considered as in some measure supplementing the other; but it is not well so to confuse them. In any case, persons are received who, having been lectured on the details of their future work, are brought into contact with its practice in the wards of a hospital and infirmary. They should see the various departments consecutively, and might be employed as under-nurses under the supervision of the head-nurses. The proportion, however, they bear to them should be less, or they will confuse the work, liable as they are to make mistakes. How far such an institution can be carried out in a hospital with a medical school attached ought to be a matter of careful consideration; in any case, they should be held well in hand. Still more important it is, that they should not make the work of the head of the central system impossible; it being already so onerous and responsible that few women would have the constitutional powers sufficient for the work in a large hospital.

In all these systems, it is by their practical application to the needs of the patient, and in the carrying out the desires of the medical staff, that "systems" must be judged. If a "system" be worshipped and believed in as a substitute for efficiency, then a grave error is committed; and, while in the *régime* of a sisterhood there is much to attract the sentiment of the public and the sympathies of the benevolent, yet it is very apt to degenerate into routine, and the mode or manner to take the place of patient in their thoughts.

Probably, none of the nursing systems have hitherto arrived at the highest state of efficiency. Some have aimed too high; some have failed from want of thorough training; most have omitted to take advantage of mechanical helps; others have studied sick dietary too little. Probably, we medical men have not done as much as we could have done in the matter, and, engrossed with more difficult problems, have somewhat overlooked this very important subject.

RHODES'S AUDIPHONE.

By JAMES SAMUELSON, Esq., Claughton.

DURING a recent visit to the United States, I purchased one of the audiphones which are attracting so much attention in that country. The following account of the instrument will be interesting.

The audiphone resembles a fan in appearance. It consists of an elastic or resilient plate about ten inches square, which resembles ebonite in appearance, but is in reality a plate of white composite metal japanned and burnished. It is mounted on a black handle of ebonite; and, by means of a cord and tassel, it is capable of being bent to any curve, in which it is retained by a neat clamp on the handle, through which the cord passes.

Fig. 1

Fig. 2.

Fig. 3.

Fig. 1 shows the instrument in its ordinary condition; Fig. 2, when it is curved; and Fig. 3 shows its application. It is placed against the upper row of teeth, and the speaker speaks against it. The audiphone acts as a sound-board, and the sound is carried through the upper jaw to the auditory nerve. It should be held tolerably far back, and the edge of the plate should rest between two teeth on each side of the

jaw. The inventor claims more for it than I find it from experience to accomplish. I have tried it in public three times, and several times in private—in all, upon thirty or forty persons of varying degrees of deafness arising from a great variety of causes; and, although I should not wish the following to be considered as a scientific or conclusive report upon it, I think it will be found pretty accurate.

Of course, if the auditory nerve be atrophied or diseased in any way, no result is obtainable. Where the hearing comes and goes—to speak popularly—it does not seem to be of much benefit. In many cases, the trumpet appears quite as efficient as the audiphone. But then the following consideration occurs: the patient has become accustomed to the use of the one instrument (the trumpet), whilst the other is only tested for the first time. I have, however, found cases in which the patient could not hear any one through the trumpet excepting some person with whom he is in the habit of speaking constantly, whilst his face brightened up when I spoke to him with the audiphone, and he answered me promptly and accurately. In one case, that of a well-known public man in Liverpool, the result has been very striking. He considers that the lost sense of hearing is restored to him through the audiphone, and has ordered a couple from the makers; but meanwhile he has purchased a large flat ivory paper-knife, and he tells me that it is a great enjoyment to him, whilst he is reading his newspaper, to place one end of the blade in his teeth and the other on a musical box, the tunes from which are clearly audible.

It is difficult to say in what affections of the auditory apparatus the audiphone is of the greatest use. My impression is that, when the tympanum or the bones of the ear are so much injured as to produce almost complete deafness, the audiphone is the most efficient, as all external sounds are excluded; but then, again, the condition of this part of the mechanical apparatus may affect the whole auditory system, and in that case nothing is gained by the use of the instrument. Temperament has something to do with the matter. Some people are very stupid, or expect too great results at once. They think that, as soon as the audiphone is placed against the teeth, their old faculty should return at once; and I have known the same persons tell two completely opposite stories about the result of the experiment upon them, to two different friends.

One thing is certain: if a hearing person exclude sounds from his ears by means of cotton-wool, he can, as a general rule, hear fairly well by means of the audiphone, without any effort of the speaker's voice. It seems to me that aurists and teachers of the deaf will be very much benefited by the invention: the former, through being able to use it as an instrument for diagnosis (I believe the ticking of the watch is largely used already); the latter, where the child is deaf from some injury to or imperfection of the mechanical portions of the auditory apparatus. The whole thing is quite in its infancy.

GRAYDON'S AUDIPHONE.

By URBAN PRITCHARD, M.D., F.R.C.S.,

Aural Surgeon to King's College Hospital and to the Royal Ear Hospital.

I HAVE been much interested in the accounts of this instrument, some details of which appeared in the JOURNAL of December 20th, as I have been working in the same direction the last two years, and with some encouraging results. My object, like that of Mr. Rhodes, has been to substitute for a defective middle ear some mechanical means which would do the duty of the membrane and chain of ossicles; that is to say, to conduct the sound-vibrations of the air to the fluid of the labyrinth without the great loss which ordinarily occurs when the sound-waves pass from a gaseous to a fluid medium. Up to the present, all the aids to hearing have been designed either for collecting the sound-waves and directing them to the membrana tympani, like the ear-trumpets and tubes, or simply for magnifying sounds like the microphone.

My little instrument is composed of a vibratory drum, of the size and construction recommended by Professor McKendrick for the phonograph, with a convenient handle for the listener to hold. This drum has attached to its centre on one side a style, longer than that for the ordinary phonograph and tipped with boxwood; from the other side proceeds a speaking-tube. Now, if a very deaf person (it must be external or middle ear deafness) hold the boxwood tip to one upper tooth, or to the mastoid process, he can hear a whisper spoken through the speaking-tube, the sound-vibrations being conducted through the skull to the external ears.

So far, this instrument is successful, and the proposition is solved; and as, at least in nine-tenths of the cases of deafness, the internal ear is quite unaffected, I thought at first it was a complete success; but